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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/692,110 | 10/23/2003 | Mohan R. Nagar | 01-179 | 6569 |

7590 06/01/2005
LSI Logic Corporation
Legal Department-IP
MS D-106
1621 Barber Lane
Milpitas, CA 95035

EXAMINER

CHAN, EMILY Y

ART UNIT PAPER NUMBER

2829

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------|--------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/692,110 | NAGAR ET AL. | |
| | Examiner | Art Unit | |
| | Emily Y. Chan | 2829 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 16-21 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 3-28-05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Beaman et al US Patent No. 5,811,982.

With respect to claim 16, Beaman et al ('982) discloses a probe card (20) (see Fig. 1) mountable to a tester (10) including a test head interphase board (12), the probe card comprising a package having solder balls (21) mountable to a tester interphase board (12), and having electrically conductive material configured to electrically contact bumps on the device (30).

With respect to claims 17-18, Beaman et al ('982) disclose that his probe card is configured to make electrical contact with bumps (27) on the device (30) without using probe pins (see Fig. 1).

Therefore, Beaman et al ('982) anticipate the claimed invention.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller US publication No. 2003,0122567 in view of Nagar US Patent No. 6,605,954.

With respect to claim 16, Miller ('716) discloses a probe card (see Fig. 1, 140) mountable to a tester (150) for testing a device (120), wherein the tester includes a test head interphase board, said probe card comprising electrically conductive material configured to electrically contact bumps on the device (120) (see page 5, paragraph (0075)).

Miller ('716) fails to disclose that his probe card has solder balls mountable to the tester head interphase board.

Nagar ('954) discloses a probe card (see Fig. 10) and exclusively teach that his probe card (10) comprises solder balls for electrical communication with the tester (see Col. 1, line 25).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the solder ball mountable to the tester as disclosed by Nagar ('954) into Miller ('716)'s probe card for the expected benefit of obtaining good electrical contact between the probe pin and the electrical connection of the integrate circuit as disclosed by Nagar ('954) (see Col. 1, lines 31-32).

With respect to claims 17-18, Nagar ('954) discloses that his probe card is configured to make electrical contact with bumps (8) on the device (12) without using probe pins (see Fig. 1).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

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1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 19-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,10 and 15 of co-pending Application No. 10/620,057. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims 19-20 of the instant application and claims 1,10 and 15 of the co-pending Application No. 10/620,057 are directed to the same probe card mountable to a tester for testing a device. The claimed components associated with the functions in the instant invention such as " a tester, DSO, data file, waveform, bumps and post software processing software to analyze the reflected digital and calculate the interconnect impedance versus time data for the DUT; etc, are all recited in the claims 1,10 and 15 of the co-pending Application No. 10/620,057. Therefore, the claims 1,10 and 15 of the co-pending Application No. 10/620,057 encompass the scope of the instant invention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 21 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10 and 15 of the co-pending Application No. 10/620,057 in view of Nagar ('954).

Claims 1, 10 and 15 of the co-pending Application No. 10/620,057 does not disclose engaging the probe card with the substrate without using any probe pins as claimed.

Nagar ('954) discloses a probe card (see Fig. 10) and exclusively teach that his probe card (10) is configured to make electrical contact with bumps (8) on the device (12) without using probe pins (see Fig. 1).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to incorporate the solder ball mountable to the tester as disclosed by Nagar ('954) into Miller ('716)'s probe card for the expected benefit of obtaining good electrical contact between the probe pin and the electrical connection of the integrate circuit as disclosed by Nagar ('954) (see Col. 1, lines 31-32).

Response to Amendment

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily Y. Chan whose telephone number is 571-272-1956. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EC
5-29-05


VINH NGUYEN
PRIMARY EXAMINER
A.U. 2829
05/31/05